

Purine Research Lab  
Biochemical Sciences  
4<sup>th</sup> Floor North Wing  
St Thomas' Hospital  
London SE1 7EH  
Direct Line: 0207188 1266

18<sup>th</sup> of March 2022

Dear Colleague,

**Subject: Update in testing strategy; reflex testing of TPMT genotyping panel (TPMT/NUDT15) for patients with very low Hb levels ( $Hb \leq 70g/L$ ).**

We are contacting you as a current user of the thiopurine-S-methyltransferase (TPMT) phenotype service at Viapath's Purine Research Laboratory, St Thomas' Hospital.

Following an internal clinical audit as part of our continuous quality improvement programme, we have determined that correlation between TPMT phenotype and TPMT/NUDT15 genotype is poor in patients with very low Hb levels ( $Hb \leq 70g/L$ ). For this reason patients with Hb levels in this range will be reflexed to TPMT/NUDT15 genotyping.

By reflex testing and performing TPMT/NUDT15 genotyping panel in patients with very low Hb ( $\leq 70g/L$ ) we ensure that the risk of missing patients who are TPMT or NUDT15 deficient is minimised, resulting in better patient management and outcomes.

Going forward, we will genotype for TPMT common variants (TPMT\*2, \*3C, and \*3A) and the NUDT15 common variant (NUDT15\*3); patients with acute lymphoblastic leukaemia (ALL), patients with an  $Hb \leq 70g/L$ , patients with recent blood transfusions, and patients with renal failure on dialysis. For all these case scenarios, correlation between phenotype and genotype is poor.

Please note that unless TPMT/NUDT15 genotyping is requested for these patients you may be charged for both TPMT phenotype and genotype.

If you require any further information or details of the analysis, please do not hesitate to contact the Purine research lab.

Yours sincerely,

Dr. Monica Arenas Hernandez (PhD)  
Principal Clinical Scientist  
Purine Research Laboratory

E-mail: [monica.arenas-hernandez@viapath.co.uk](mailto:monica.arenas-hernandez@viapath.co.uk), [m.arenas@nhs.net](mailto:m.arenas@nhs.net)  
Tel: 020 7188 1266